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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,489	10/17/2005	Yusaku Shimaoka	MTS-3532US	1296
52473	7590	09/25/2006	EXAMINER	
RATNERPRESTIA			TSO, LAURA K	
P.O. BOX 980			ART UNIT	
VALLEY FORGE, PA 19482			PAPER NUMBER	
			2875	

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/553,489

Applicant(s)

SHIMAOKA, ET AL.

Examiner

Laura Tso

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 9-14 and 18 is/are rejected.
- 7) ☒ Claim(s) 7, 8 and 15-17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 10/17/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

The disclosure should be carefully reviewed to ensure that any and all grammatical, idiomatic, and spelling or other minor errors are corrected.

### ***Claim Objections***

Claims 7, 8, 15-17 are objected to because of the following informalities:

With respect to claim 7, "source of luminescence" does not have proper antecedent basis.

With respect to claim 15, "plurality of light sources" does not have proper antecedent basis.

Claims 8, 16-17 depend from an indefinite claim.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese reference 01-122501.

The Japanese reference discloses a light source apparatus comprising a lamp [1], a first ellipsoidal concave mirror [2], a second spherical concave mirror [3] for reflecting light to the first mirror, wherein the distance between the reflection plane of the second mirror and the lamp is shorter than the distance between the lamp and the focus of the focus of the first concave mirror and part of the reflection pane of the first mirror is formed around the reference plane [figure 2]. With respect to claim 6, the equation seems to be satisfied. Lens [4] converts the light to parallel beams. The lens is broadly "connecting with the focus".

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese reference 01-122501 in view of Davenport et al. (5,526,237).

The Japanese reference does not disclose the claimed lamp. However, the claimed lamp is well known in the art and is shown by Davenport. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the claimed lamp, which is taught by Davenport, in the device of the Japanese reference as it is well known and produces bright light.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese reference 01-122501 in view of Tiao et al. (6,547,422).

The Japanese reference does not disclose the lens is a rod integrator. Tiao, in a similar device, discloses a rod integrator maybe used to transport light over a distance [figure 4]. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a rod integrator, such as one taught by Tiao, in the device of the Japanese reference to transport light without interference.

Claims 13, 14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese reference 01-122501 in view of Tiao et al. (6,547,422).

The Japanese reference does not disclose the lens is an array or the device is used to project an image. Tiao, in a similar device, discloses a lens array [136, 137] maybe used in a system to project an image [figure 1]. Thus, it would have been

obvious to one of ordinary skill in the art at the time the invention was made to use a lens array in a system to project an image, such as one taught by Tiao, in the device of the Japanese reference if one wanted to project an image.

The Japanese reference does not disclose a system wherein a plurality of light source apparatuses are used with a light guiding means to project light to a lens. Tiao, in a similar device, two light source devices [30&32 and 31&33] and a light guiding means [34] are used to project light to a lens [35]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the two light projection system of Tiao with the light sources of the Japanese reference so that the Japanese reference may place twice as much light into its lens producing brighter light output.

### ***Allowable Subject Matter***

Claims 7, 8 and 15-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Prior art fails to show or suggest a lighting apparatus comprising a plurality of light sources each comprising a light source apparatus comprising a lamp, a first concave mirror, a second concave mirror for reflecting light to the first mirror, as claimed

in claim 1, wherein the reflection plane of the second mirror is located closer to the lamp than the reflection plane of the first mirror and the equations listed in claim 7 are satisfied.

Prior art fails to show or suggest a lighting apparatus comprising a plurality of light sources each comprising a light source apparatus comprising a lamp, a first concave mirror, a second concave mirror for reflecting light to the first mirror, as claimed in claim 1, wherein the distance between the reflection plane of the second mirror and the lamp is shorter than the distance between the lamp and the focus of the focus of the first concave mirror and part of the reflection pane of the first mirror is formed around the reference plane, an wherein the plurality of light sources are placed so that the respective reference axes thereof intersect at one point in space and a lens means is provided at a position corresponding to that point and the lens converts the light to parallel light.

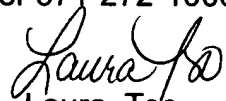
### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura Tso whose telephone number is 571-272-2385. The examiner can normally be reached on M-F 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 571-272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Laura Tso  
Primary Examiner  
Art Unit 2875